

Post-doctoral position at INRAE Clermont-Ferrand / Theix
Exploring associations between bovine feed efficiency
and robustness

INRAE is France's new National Research Institute for Agriculture, Food and Environment, formed by the merger of INRA and IRSTEA on January 1, 2020. INRAE is a community of 12,000 people with more than 200 research units and 42 experimental units throughout France. The institute is among the world leaders in agricultural and food sciences, in plant and animal sciences, and is 11th in the world in ecology and environment. INRAE's main goal is to be a key player in the transitions necessary to address major global challenges. In the face of the increase in population, climate change, scarcity of resources and decline in biodiversity, the institute develops solutions for multiperformance agriculture, high quality food and sustainable management of resources and ecosystems.

Job environment

- **Research unit**

The research will be carried out at [UMR1213 Herbivores](#), located in Theix, near Clermont-Ferrand, France. UMR Herbivores is a joint research unit associating INRAE and the Higher Education and Research Institution VetAgro Sup. It contributes to the design of sustainable herbivore farming systems that seek to reconcile production efficiency, product quality and socio-economic viability with environmental protection and animal welfare. UMR Herbivores assesses both on-farm practices, and predominant and alternative systems of herbivore farming, and proposes innovative techniques with high environmental value. UMR Herbivores analyses and integrates the underlying biological mechanisms, and establishes laws for animal responses with approaches ranging from high-throughput techniques to modelling and decision support tools for various stakeholders (producers, consumers, citizens, and policy-makers). The Unit is composed of 5 research teams.

Missions and activities

The postdoctoral fellow will join an interdisciplinary European project [GenTORE](#) funded by the Research and Innovation H2020 program. The objective of the Gentore project is to develop solutions to improve animal resilience without compromising efficiency and in doing so, contribute to select the genotypes most adapted for a given environment. The candidate will work within the WP 2.3 focused on experiments to test if resilience traits identified from productive and metabolic responses to short term nutritional challenges differ according to RFI scoring of animals in beef cows. Animal responses were measured after short-term nutritional challenges, in order to characterize the between-animal variation in adaptive responses. The resilience and efficiency traits are measured using reference methods (intake, live-weight, production) and proxy measures (activity and metabolic responses) as high-frequency time-series data over relatively long timescales (lactation).

The role of the post-doctoral fellow will be 1) to analyse adaptive trajectories of Charolais cows that have experienced successive short-term nutritional challenges during lactation. Adaptive trajectories will be analysed from RFI, milk yield, spot milk composition, body weight, plasma metabolites, spot fecal digestibility and animal behaviour data that are already available, 2) to analyse sensor activity data measured from

Medria axel loggers in relationship with physiological state (gestation, early and mid-lactation) and in response to nutritional challenges in suckler cows (charolais) and 3) to write scientific papers.

The post-doctoral fellow will interact with EU-partners participating to the project and conducting similar experiments in beef and dairy cattle. He/she will participate in workshops and annual meetings of the project.

Required Training and skills

PhD in animal/ biology/agricultural sciences

Experience in animal research and statistical analyses.

Excellent communication skills

Proven track record of scientific publications

Expertise in database management and statistical analyses (Mixed models, including repeated measures in time) and dedicated software: SAS and R

English (read, written, spoken)

INRAE's work/life balance

By joining us, you benefit from:

- 30 days of annual vacation + 15 days "Reduction of Working Time" (for a full time);
- parenting support: CESU childcare, leisure services;
- continuous training opportunities;
- social support: career counseling and social assistance;
- holiday and leisure services: holiday vouchers, accommodation at preferential rates;
- sports and cultural activities;
- on site collective catering.

Conditions

- Research unit : UMR Herbivores
- Location : INRAE Clermont-Ferrand / Theix
- Type of contract: Fixed-term contract (CDD)
- Duration: 12 months
- Starting date: January 2021
- Salary: 2516 to 2 938 euros/month (gross salary) according to experience

✘ **Deadline for application : 30/11/2020**

How to apply

- Send a motivation letter and a CV to :

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- Phone number
- 04 73 62 47 68